

Serial No. 09/091,605

SEP 25 2000

TECH CENT. 11/11/2000

following:

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-- CROSS REFERENCE TO RELATED APPLICATION

B<sup>1</sup> This Application claims the benefit of PCT Application, Serial No. US97/01978 filed February 6, 1997; G.B. Application, Serial No. 9603847.6 filed February 23, 1996; and U.S. Provisional Application, Serial No. 60/012111, filed February 6, 1996.

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TECHNICAL FIELD OF THE INVENTION --

B<sup>2</sup> Between the first paragraph and second paragraph on p. 1 please insert the following subtitle:

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-- BACKGROUND OF THE INVENTION --

B<sup>3</sup> On page 6 before the first full paragraph which begins on line 3, please insert the following subtitle:

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-- SUMMARY OF THE INVENTION --

B<sup>4</sup> On page 6 after the first full paragraph ending on line 15, please insert the following subtitle:

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-- DETAILED DESCRIPTION OF THE INVENTION --

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Amendment of the Claims

Please delete all of claims 1 through 18 and insert the following amended claims:

B<sup>5</sup> 19. A host cell transformed with a vector comprising a promotor driving expression of a DNA sequence encoding a protein of the formula:

His-Xaa<sup>1</sup>-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Ser-Tyr-  
Leu-Xaa<sup>2</sup>-Gly-Gln-Ala-Ala-Xaa<sup>3</sup>-Xaa<sup>4</sup>-Phe-Ile-Ala-Trp-Leu-  
Val-Lys-Gly-Arg-Xaa<sup>5</sup> (SEQ ID NO 1)

wherein

Xaa<sup>1</sup> is Ala, Gly, Val, Thr, or Ile;Xaa<sup>2</sup> is Glu, Gln, Ala, Thr, Ser, or Gly;Xaa<sup>3</sup> is Lys, or Arg;Xaa<sup>4</sup> is Glu, Gln, Ala, Thr, Ser, or Gly; and,Xaa<sup>5</sup> is Gly-OH or is absent;

wherein said host cell is capable of being implanted into a mammal with type 1 or type 2 diabetes and wherein said host cell secretes a protein of SEQ ID NO. 1.

Serial No. 09/091,605

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20. The host cell of Claim 19 wherein said host cell is immunologically isolated from the mammal's immune system.

21. The host cell of Claim 19 wherein Xaa<sup>1</sup> is Ala or Val; Xaa<sup>2</sup> is Glu; Xaa<sup>3</sup> is Lys or Arg; Xaa<sup>4</sup> is Glu; and Xaa<sup>5</sup> is Gly-OH or is absent.

22. The host cell of Claim 21 wherein Xaa<sup>1</sup> is Ala; Xaa<sup>3</sup> is Lys; and Xaa<sup>5</sup> is Gly-OH.

23. The host cell of Claim 21 wherein Xaa<sup>1</sup> is Val; Xaa<sup>3</sup> is Lys; and Xaa<sup>5</sup> is Gly-OH.

24. The host cell of Claim 19 wherein the promoter driving expression of the DNA sequence is a viral promoter.

25. The host cell of Claim 19 wherein the promotor driving expression of the DNA sequence is a metallothionein promotor.

26. The host cell of Claim 19 wherein the DNA sequence is:

5' - CAT GCT GAA GGG ACC TTT ACC AGT GAT GTA AGT TCT TAT TTG  
GAA GGC CAA GCT GCC AAG GAA TTC ATT GCT TGG CTG GTG AAA  
GGC CGA GGA - 3'.  
(SEQ ID NO 2)

27. The host cell of Claim 19 wherein the DNA sequence is:

5' - CAT GTT GAA GGG ACC TTT ACC AGT GAT GTA AGT TCT TAT TTG  
GAA GGC CAA GCT GCC AAG GAA TTC ATT GCT TGG CTG GTG AAA  
GGC CGA GGA - 3'.  
(SEQ ID NO 4)

28. The host cell of Claim 19 which is an immortalized cell line.

29. The host cell of Claim 19 which is a human

Serial No. 09/091,605

embryonal kidney 293 host cell.

30. The host cell of Claim 19 transformed with a vector selected from the group consisting of:

- 1) pGT-h+tLB+GLP-1;
- 2) pGT-h+tLB+Val8GLP-1; and
- 3) pMT-h+tLB+Val8GLP-1.

31. The host cell of claim 30 wherein the vector is pGT-h+tLB+GLP-1.

B<sup>5</sup>  
32. The host cell of Claim 31 wherein the vector is pGT-h+tLB+Val8GLP-1.

33. A method of treating Type I or Type II diabetes in a mammal in need thereof comprising injecting an expression vector directly into the mammal such that the expression vector is incorporated into a cell of the mammal and secretes a protein of SEQ ID NO. 1.

34. A method of treating Type I or Type II diabetes in a mammal in need thereof comprising implanting host cells of Claim 1.

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Remarks

Applicants respectfully request entry of these amended claims which do not add new matter. Amended Claims 19 through 32 claim host cells for use in *ex vivo* gene therapy. These host cells were specifically included in the originally filed method claims. Claims 33 and 34 are directed to methods of treating diabetes using *in vivo* and *ex vivo* gene therapy, respectively.

CLAIM OBJECTIONS

The Examiner objected to claims 14 and 15 as being in improper form because they are dependent on claims which are